

# LISTing Newsletter

Sept. 1994

Newsletter of the Long Island  
Sinclair/Timex Users Group

Next Meeting  
Sept. 11, 1994



*Listing Policy*

*Annual Dues \$16.00*

One "sample" copy sent upon receipt of Business size SASE. Copies provided on EXCHANGE BASIS with other bona fide user groups. LISTing is published monthly except July and August by LIST (Long Island Sinclair Timex) Group, a not for profit user group.

We are always looking for articles, programs, reviews etc. to keep our members informed and entertained. You maintain full credit and copyright.

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\*\*\*\*\*  
 LIST OFFICERS  
 \*\*\*\*\*  
 PRES. HARVEY RAIT  
 U.P. BOB GILDER  
 TRES. ROBERT MALLOY  
 COR.SEC. JOHN PAZMINO  
 EDITOR. FRED STERN  
 LIBR. TOM SKAPINSKI  
 \*\*\*\*\*

PLEASE SEND INQUIRIES TO:  
 LIST  
 MR. HARVEY RAIT  
 5 PERI LANE  
 VALLEY STREAM, N.Y. 11581

PLEASE SEND SUBMISSIONS TO:  
 LISTING  
 MR. FREDERIC STERN  
 P.O. BOX 264  
 HOLBROOK, N.Y. 11741

\*\*\*\*\*  
 COMING EVENTS:  
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 SEPT. 11, 1994 LIST MEETING.

\*\*\*\*\*  
 \*\*SPECIAL NOTICE\*\*  
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THE NEXT MEETING WILL BE HELD AT  
 THE ICE CREAM DISPENSARY  
 (HARVEY'S STORE)  
 334 DOGWOOD AVENUE  
 FRANKLIN SQUARE, N.Y.  
 TEL: 516-486-1090

DIRECTIONS: SOUTHERN STATE PKWY  
 TO EXIT 17 NORTH (HEMPSTEAD AVE)  
 GO TO FIRST TRAFFIC LIGHT,  
 LEFT TURN ON TO CORNWALL,  
 NEXT TRAFFIC LIGHT, BEAR RIGHT  
 ON TO DOGWOOD AVENUE. GO 1 MILE  
 TO THE ICE CREAM DISPENSARY. IN  
 A SMALL SHOPPING CENTER ON THE  
 LEFT SIDE OF THE ROAD.

MEETING MINUTES  
 \*\*\*\*\*  
 REPORTED BY: FRED STERN.  
 JUNE 12, 1994

\*\*\*\*\*  
 THE MEETING WAS CALLED TO ORDER  
 BY HARVEY AT 2:00PM

IN THE MAIL WE RECEIVED 1 COR-  
 RESPONDENT.

BOB GILDER REPORTED THAT QL  
 WORLD WAS FOLDING AND THIS MONTH  
 WOULD BE THE LAST ISSUE.  
 IGLR MAY TAKE OVER QL WORLDS  
 SUBSCRIBERS LIST.

A ROUNDTABLE DISCUSSION WAS HELD  
 ON HOW TO STIMULATE MEMBERSHIP.  
 BOB GILDER WOULD LOOK INTO  
 PLACING AN ADD IN UPDATE MAGA-  
 ZINE.  
 FRED STERN SUGGESTED SENDING  
 FLYERS, OR HOLDING OPEN MEETINGS  
 AT BORDER BOOKS OR BARNES AND  
 NOBLES.

A FINAL WORD  
 \*\*\*\*\*  
 MY NAME IS FRED STERN AND I AM  
 THE EDITOR OF THIS EDITION OF  
 LISTING.

I HOPE THE SUMMER OF 1994 HAS  
 BEEN PLEASANT FOR ALL OF YOU.  
 IT HAS BEEN A VERY BUSY TIME FOR  
 ME, TRYING TO PLAN NEW ARTICLES  
 AND REVIEWING OLD ONES FOR  
 FUTURE PUBLICATION.  
 IT IS A FACT THAT OUR SINCLAIR-  
 TIMEX COMMUNITY IS SHRINKING.  
 IT IS A FACT THAT THEIR IS  
 LITTLE TO NO SUPPORT FOR THE  
 ZX-81, TS1000 AND TS2068.  
 IN ORDER TO SURVIVE WE MUST BAN  
 TOGETHER AND SUPPORT OURSELVES.  
 WE MUST ALSO EXTEND OUR HAND TO  
 WELCOME OTHER ORPHAN COMPUTER  
 USERS. WE MAY LEARN A SOFTWARE  
 TRICK FROM A TI-99 USER, OR RE-  
 SOLVE A HARDWARE PROBLEM THANKS  
 TO A TRS-80 HACKER. THEN AGAIN  
 WE MAY BE ABLE TO HELP THEM WITH  
 THEIR PROBLEMS FROM THE EXPER-  
 IENCE WE GAINED WITH OUR TIMEX-  
 SINCLAIR COMPUTERS.  
 WE ARE ALL IN THE SAME BOAT.  
 IF WE OF THE TIMEX-SINCLAIR USER  
 COMMUNITY CAN FORM AN ALLIANCE  
 AND BAN TOGETHER WITH THE  
 REMAINING TRS-80, TI-99, COM-  
 MODORE AND OTHER ONCE POPULAR  
 COMPUTER USERS, WE MAY HAVE A  
 FORMIDABLE TEAM OF TALENTED  
 PEOPLE WHO COULD KEEP OUR RESP-  
 ECTIVE SYSTEMS ACTIVE FOR YEARS  
 TO COME.  
 THESE ARE MY THOUGHTS ON THIS  
 MATTER. IF YOU HAVE ANY COMMENTS  
 WRITE ME. I WILL BE GLADE TO  
 PUBLISH ANY SUPPORTING OR OPPOS-  
 ING VIEWS.

THANK YOUS TO TOM SKAPINSKI, AND  
 BOB GILDER FOR THERE HELP AND  
 CONTRIBUTIONS TO THIS ISSUE.

A VERY SPECIAL THANK YOU TO  
 HARVEY FOR HIS HOSPITALITY, AND  
 THE USE OF HIS STORE FOR OUR  
 MEETING. ALSO TO MIKEY FOR HIS  
 CONTRIBUTIONS.

SEE YOU ALL AT THE NEXT MEETING.

SEPTEMBER 1994						
SU	MO	TU	WE	TH	FR	SA
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	19	30	
LIST MEETING 11TH						

## QL CORNER

On behalf of all LIST members, I would like to extend a welcome to Ruth Fegley, a new member of LIST and a QL user, as well as a member of the CATS group. Recently, we corresponded through the mail about Psion Xchange, where I stated that I would like to permanently change the default DATA drive from flp1\_ to flp2\_. This morning I received a note from Ruth detailing a two line addition to the Xchange BOOT program which does permanently change the default drive to flp2\_. Ruth states that a member of the CATS group provided the following SuperBASIC listing to her:

265 DATA\_USE flp2

267 PROG\_USE flp1

The above lines were added into my copy of Xchange BOOT; ran the BOOT program and the data drive now reads flp2\_. Note that there isn't an underscore after the drive designators when the DATA\_USE and PROG\_USE PROCedures are defined. Thanks Ruth!!

Arcwind Ltd; has ceased publishing QL World magazine. From information received through a reputable source, Arcwind Ltd. publishes a wind surfing magazine which is the leading wind surfing publication in Europe. Almost all of their effort was devoted to producing this publication and QL World became their last thought. It is also my understanding that money owed to subscribers are required to be refunded per UK law. I intend to write to Arcwind requesting a refund due me and I urge every QL User magazine subscriber to do the same.

By no means is this a severe blow for the life of the QL. IQLR provides accurate reviews of hardware and software by non paid users. The latest issue of IQLR contains 68 pages consisting of top notch articles and 16 advertisers. Publisher Bob Dyl. IQLR, P. O. Box 3991, Newport RI 02840-0987 USA. Subscription rate is \$20.00; normally 6 issues annually. I truly believe that right now, the QL is in the best shape of it's computing life and will continue to survive for many, many more years to come.

Updates Magazine, P. O. Box 1095, PERU, IN 46970 publishes four times annually, supporting ALL SINCLAIR/TIMEX computers; \$18.00 subscription rate.

QUANTA (UK based) is still actively supporting the QL as well as many US based clubs such as CATS, NESQLUG and LIST.

Soon to be released from Jochen Merz Software, Lm Stillen Winkel 12, 47169 Duisburg, Germany, is the long awaited SMS2 operating system which is QL compatible. The total SMS package will be offered in sections:

The new operating system; multiple, fast BASICs; flexible level 3 drivers and Hard disk drive support ..... DM 199.  
New screen driver ..... DM 50.  
BASIC Development Environment ..... DM 50.

Please send for their latest 12 page catalog of QL hardware and software at the above address - Jochen accepts Visa and Master Card for ease of payment.

A new IDE Hard Disk interface, named QBIDE, size 3.5" x 3.75" is now available from Ron Dunnett at £65.00 plus shipping. QUIBBESoft P/D, 38 Brunwin Road, Rayne, Braintree, Essex CM7 5BU, Great Britain.

I had received my Super Gold Card during the last week in June - 'Super' it is! For the first time the QL provides true 32-bit processing and additional benefits as well:

A 68020 microprocessor which runs at 24MHZ providing high speed,

3968K. of 32-bit, no wait state memory seen by QDOS  
A true Parallel port for fast graphics,  
Four disk drive capability,  
Crash protection for the internal battery backed clock,  
Automatic boot option for unattended operation,  
Automatic enabling of Toolkit II option.  
External regulated 5VDC input connector allowing easy connection to a switch mode power supply.

There is no question in my mind that the Super Gold Card is fast. I used a simple test to verify the additional speed provided by this interface. Within Quill I loaded in a single page letter and entered the Copy command. The cursor moved speedily down the screen to the end of the text. Then I entered 'K' (keep command) and reproduced additional pages by pressing down on the 'c' key and quickly tapping the 'Enter' key. Any Quill user who has used the Copy command for deleting blocks of text or duplicating a block of text within a document can recall the agony as to the slow process as the cursor scrolls across each line. As for The Super Gold Card, each line is a quick blink of the eye as well as reproducing additional pages. It is fast!!!!

As of yet, I haven't used the parallel port which is most beneficial when printing out graphics. However, in the latest issue of Quanta, Peter Hamill reviews the Super Gold Card and states that a LINEDesign page which takes between 20 to 30 minutes to print from the serial port now can be printed out within 2 1/2 to 3 minutes. These printouts are screen dumps. Any QL user who uses a Desk Top publishing program will benefit printing from a parallel port.

To allow the parallel port to be used with software that will only allow output to the serial ports, a command PAR\_USE has been provided; PAR\_USE "ser". There is another provision allowing the parallel port to use some of the 4 Meg memory as a buffer.

As for disk drive operation, the interface allows operation of 4 disk drives, from one drive cable, or if you have two sets of dual drives, the interface provides an additional connector for a second drive set with out changing the drive designators to 02 and 03. Those of us who had the small drive interface for the Trump Card and Gold Card will realize that this interface is now incorporated on the Super Gold Card.

If you use a Sinclair ROM (JS or JM ) or Minerva MK II, there is an option available for auto-booting and enabling Toolkit II. The command is AUTO\_TK2F1 or if you prefer, AUTO\_TK2F2. I haven't used this option, as I compute with the Minerva MK I ROM.

I have heard that users operating with Hard Disks are finding some fault when used with the Super Gold Card. When programs are written to the Hard Disk; they can get a directory indicating which files have been copied to the Hard Drive; however, they cannot access the files on the Hard Drive. I'm sure that Miracle Systems will sort out this problem very quickly.

The Super Gold Card manual, 8 1/2" x11" in size, provides lots of information in simple form, so that any SGC user can easily come to terms with this interface. Along with the text are diagrams for the Disk Drive ports, the Parallel printer port and the 64 pin expansion bus connector. Toolkit II functions and procedures are in normal size type - no more reading through a magnifying glass!

If you have been pondering about switching to a PC; save your money; stick it out with the QL and purchase a Super Gold Card.

See you next month, Bob Gilder.



## LIGHT-BAR MENUS ON THE ZXB1/TS1000

Most programmers don't give menus much thought. After all, menus are just a way to get the user where he wants to go, aren't they? Definitely not!

Years of system design, analysis, and programming have taught me that good, well designed, eye appealing, user-friendly menus are one of the single most important contributions to developing a system which will please the users. Remember, if the system pleases the users then the system will be a success. No matter how efficiently a system operates, if the users do not like to use it, it will not be utilized or appreciated.

One of the simplest and most eye-appealing menu styles is the light-bar menu. A light-bar menu uses a moving bar to highlight a menu selection. The bar is controlled by the cursor keys. When the user has highlighted the desired selection, a carriage return is pressed and processing shifts to the selected option.

This menu style is currently very popular for use on mainframe and mini-computer systems. Until very recently, the light-bar menu was not often seen on microcomputer systems. But this has changed recently. As a result of faster processing speeds, today's micros are often equipped with the graphics capabilities to handle such tasks. As an example, I recently designed a system to computerize the personnel department of a large aerospace firm. The system runs on a network of IBM PCs using the Dbase III+ DBMS. By using compiled code, I was able to achieve an execution speed which enabled me to specify light-bar menus. These "snazzy" menus were a definite plus as far as the users were concerned, and made a big contribution to the overall success of the project.

Because of its inverse graphics capabilities, the ZXB1 can be made to simulate the light-bar menu style very handily. Here is a simple menu which will illustrate the concept. Enter the program into your ZXB1, and then save it to tape (for use in future programming ventures). Note that in lines 190-220 the B\$ values are the same as the A\$ values but in graphics (inverse) mode. Now run the program.

The menu will initialize with the first selection (GAME 1) "highlighted". Use the unshifted 6 and 7 keys to move the "light bar" (dark-bar?) through the selections. Keying newline will cause the program to execute the highlighted selection. Notice the wrap-around feature at the top and bottom of the menu (handled by the "outofbounds" sections).

By replacing the "HERE AT GAME #" routines with actual short games, you can create an entertaining program for the kids (line # 430 could be changed to 1000\$X to give more room for coding). By using a 64k rampack, you could replace them with a series of useful home accounting routines, or maybe a series of more complicated games (for the bigger "kids" around the house). Additional selections can be added by dimensioning larger arrays and changing the appropriate PRINT AT statements.

Comments and questions are welcomed. Send them to:

Edward Snow  
2136 Churchill Downs Circle  
Orlando, Florida 32825

```

10 REM *** LIGHT-BAR MENU ***
20 REM WRITTEN 6/7/88 BY
30 REM ED SNOW
40 REM
50 REM +INITIALIZE VARIABLES+
60 LET X=5
70 LET Y=1
80 LET DISPLAY=230
90 LET AGAIN=400
100 LET DOWN=450
110 LET UP=550
120 LET OUTOFBOUNDSUP=630
130 LET OUTOFBOUNSDOWN=620
140 DIM B$(4,3)
150 DIM B$(4,3)
160 LET B$(1,1)=" GAME 1 "
170 LET B$(2,1)=" GAME 2 "
180 LET B$(3,1)=" GAME 3 "
190 LET B$(4,1)=" EXIT "
200 LET B$(1,2)="
210 LET B$(2,2)="
220 LET B$(3,2)="
230 LET B$(4,2)="
240 LET B$(1,3)="
250 LET B$(2,3)="
260 LET B$(3,3)="
270 LET B$(4,3)="
280 REM ***** DISPLAY *****
290 REM
300 LET X=5
310 LET Y=1
320 PRINT AT 1,6,"GAMES-TAPE V3
330 PRINT AT 3,3,"*****
340 PRINT AT 4,3,"*
350 PRINT AT 5,3,"* AT 5,11;B$
360 PRINT AT 6,3,"* AT 6,11;A$
370 PRINT AT 7,3,"* AT 7,11;A$
380 PRINT AT 8,3,"* AT 8,11;A$
390 PRINT AT 9,3,"*
400 PRINT AT 10,3,"*****
410 PRINT AT 12,6,"USE CURSOR K
420 PRINT AT 13,7,"HIGHLIGHT CH
430 REM
440 REM ***** AGAIN *****
450 IF INKEY$="" THEN GOTO AGAIN
460 REM BAR MOVEMENT ROUTINE
470 IF INKEY$=CHR$(118) THEN G
480 GOTO 1200
490 IF INKEY$=CHR$(134) THEN GO
500 TO DOWN
510 IF INKEY$=CHR$(135) THEN GO
520 TO UP
530 GOTO AGAIN
540 REM
550 REM ***** DOWN *****
560 LET X=X+1
570 LET Y=Y+1
580 IF X=9 THEN GOTO OUTOFBOUND
590 REM
600 PRINT AT X,11;B$(Y)
610 PRINT AT X-1,11;B$(Y-1)
620 GOTO AGAIN
630 REM
640 REM ***** UP *****
650 LET X=X-1
660 LET Y=Y-1
670 IF X=4 THEN GOTO OUTOFBOUND
680 REM
690 PRINT AT X,11;B$(Y)
700 PRINT AT X+1,11;B$(Y+1)
710 GOTO AGAIN
720 REM --- OUTOFBOUNSDOWN ---
730 PRINT AT 8,11;B$(4)

```

```

640 PRINT AT 5,11;B$(1)
650 LET X=5
660 LET Y=1
670 GOTO AGAIN
675 REM
680 REM *** OUTOFBOUNDSUP ***
690 PRINT AT 5,11;B$(1)
700 PRINT AT 8,11;B$(1)
710 LET X=8
720 LET Y=4
730 GOTO AGAIN
735 REM
1000 REM **** GAME 1 HERE ****
1010 CLS
1020 PRINT AT 10,9;"HERE AT GAME
1030 PAUSE 120
1040 GOTO DISPLAY
1045 REM
1200 REM **** GAME 2 HERE ****
1210 CLS
1220 PRINT AT 10,9;"HERE AT GAME
1230 PAUSE 120
1240 GOTO DISPLAY
1245 REM
1400 REM **** GAME 3 HERE ****
1410 CLS
1420 PRINT AT 10,9;"HERE AT GAME
1430 PAUSE 120
1440 GOTO DISPLAY
1445 REM
1600 REM **** EXIT ROUTINE ****
1610 STOP

```

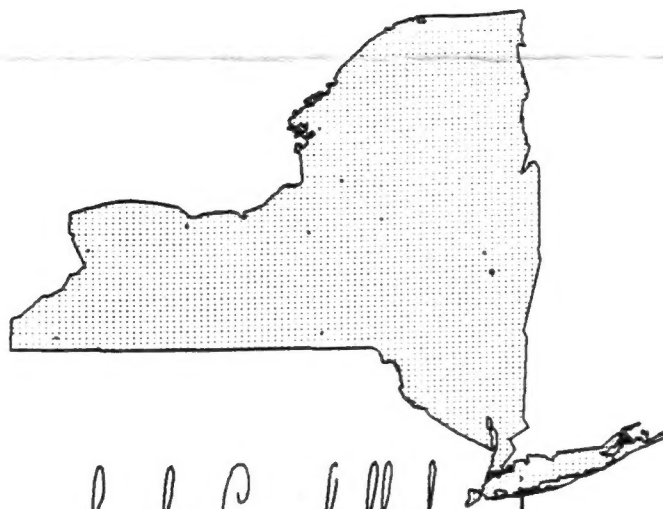
GAMES-TAPE V3. 1.1

```

*****
*
*  GAME 1
*  GAME 2
*  GAME 3
*  EXIT
*
*****

```

USE CURSOR KEYS TO  
HIGHLIGHT CHOICE



Look Carefully!

L.I.S.T.

THIS CAME FROM FRANK TOEMAY(WHERE ARE YOU?) ON ONE OF HIS FREEWARE MDVS FOR THE QL. IF YOU HAVE AN EPSON COMPATIBLE OR EVEN BETTER A SINCLAIR PRINTER OR ONE OF IT'S LOOK ALIKES YOU WILL LIKE THIS PROCEDURE. STUDY IT OUT TO LEARN TO USE IT AND REMEMBER ALL OF THE CODES ARE PROCEDURES AND SHOULD BE USED AS SUCH.

SUBMITTED BY STEVE BERG.

```

32505 :
32510 DEFine PROCedure Set_Codes
32515 Esc$=CHR$(27):Reset$=Esc$&'@':Retn$=CHR$(13):LF$=CHR$(10):PF$=CHR$(12)
32520 VT$=CHR$(11):LFn$=Esc$&'J':REMark You Must ADD CHR$(Var n)
32525 ELon$=Esc$&'M':ELOff$=Esc$&'P':CONon$=CHR$(15):CONoff$=CHR$(18)
32530 LQon$=Esc$&'x1':LQoff$=Esc$&'x0':PROPon$=Esc$&'p1':PROPOff$=Esc$&'p0'
32535 SUPERon$=Esc$&'S0':SUBon$=Esc$&'S1':SCRIPToff$=Esc$&'T'
32540 ITALon$=Esc$&'4':ITALoff$=Esc$&'5':MULTIon$=Esc$&'!':MULTIOff$=Reset$
32545 BOLDon$=Esc$&'E':BOLDoff$=Esc$&'F':DSon$=Esc$&'G':DSoff$=Esc$&'H'
32550 DWon$=Esc$&'W1':DWoff$=Esc$&'W0':ULon$=Esc$&CHR$(1):ULoff$=Esc$&CHR$(0)
32555 BKSPC$=CHR$(8):CLRBUF$=CHR$(24):PAPEROUTon$=Esc$&'9':PAPEROUToff$=Esc$&'8'
32560 CGR$=Esc$&'A'&CHR$(8):SDGR$=Esc$&'K'&CHR$(0)&CHR$(1):GROff$=Esc$&'2'
32565 DDGR$=Esc$&'L'&CHR$(0)&CHR$(1):DDSG$=Esc$&'Y'&CHR$(0)&CHR$(1)
32570 REMark QDGR$=Esc$&'Z'&CHR$(0)&CHR$(1):LFPn$=Esc$&'3'&CHR$(n)
32575 END DEFine Set_Codes
32585 :
32590 DEFine PROCedure Test_Run
32592 OPEN#3,ser:Set_Codes
32595 PRINT#3;BOLDon$;DSon$;ITALon$;:LIST#3,TO 32700:PRINT#3;CHR$(12);Res
et$
32600 END DEFine Test_Run
32602 :
32605 DEFine PROCedure Save_Codes
32610 DELETE mdv1_Printer_Codes
32615 SAVE mdv1_Printer_Codes,32500 TO 32666
32620 END DEFine Save_Codes

```



THE BINC TIMES



```

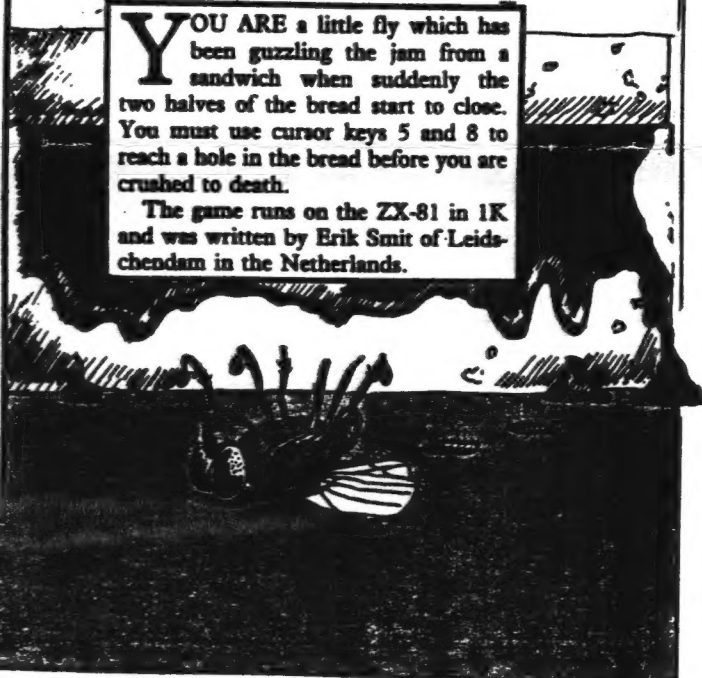
5 LET A$=""
6 LET F=6
7 LET O=0
8 LET R=0
9 LET Y=0
10 LET A=21
11 LET B=INT (RND*15)
12 LET Y=Y+1
13 LET A=A-1
14 CLS
15 PRINT AT Y,0;A$;AT A,0;A$
16 PRINT AT Y,B;" "
17 PRINT AT A,B;" "
18 LET F=F-(INKEY$="5" AND F>0)
  +(INKEY$="8" AND F<15)
19 PRINT AT 11,F;
21 LET N=PEEK 16398+256*PEEK 1
6399
23 LET N=PEEK N
25 PRINT ":"
27 IF N=128 THEN GOTO 100
50 IF A=0 OR Y=21 THEN GOTO 80
60 IF R<10 THEN GOTO 12
70 GOTO 110
80 LET O=O+1
82 LET R=R+1
84 GOTO 9
100 LET O=O-1
105 IF R<10 THEN GOTO 12
110 PRINT "SCORE ";O

```

# SANDWICH

**Y**OU ARE a little fly which has been guzzling the jam from a sandwich when suddenly the two halves of the bread start to close. You must use cursor keys 5 and 8 to reach a hole in the bread before you are crushed to death.

The game runs on the ZX-81 in 1K and was written by Erik Smit of Leidschendam in the Netherlands.



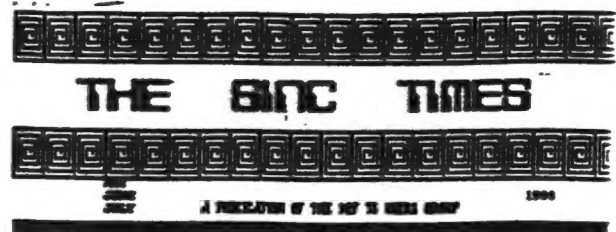
```

1 REM MODIFIED TO REFLECT JEA RATES AND TRANSLATED FROM
2 REM BASICA TO SINCLAIR BASIC, JULY 1988, BY PERRY WILSON.
3 REM ORIGINAL PROGRAM IN "BASIC PROGRAMS FOR THE HOME"
4 REM          BY CHARLES STERNBERG
5 PRINT
10 REM JEA ELECTRIC ANALYSIS PROGRAM
20 LET M=100
30 READ C,B
40 READ D,S
50 PRINT "INITIAL READING WAS ";S;" ON DAY ";D
60 PRINT "COST PER UNIT IS ";C
70 PRINT "MINIMUM BILL IS $5.50, AND IS ADDED TO ELECT. CHG."
75 PRINT "TAX IS 10% OF DIFFERENCE BETWEEN ELECTRIC CHARGE"
77 PRINT "AND FUEL CHARGE, AND IS INCLUDED IN THE TOTAL."
78 PRINT "ENTER EACH DAY (DATE) AND READING AS DATA,": REM (examples are shown on lines 510
& 520. Delete or change these lines to represent your own values.)"
79 PRINT "STARTING AT LINE 510."
80 PRINT
90 PRINT "  DATE";TAB 20;"kWh";TAB 30;"TOT. ELECT."
100 PRINT "  READ";TAB 10;"READING";TAB 20;"USED";TAB 32;"TO DATE"
110 PRINT
120 LET T2=S
130 LET D2=D
140 FOR I=1 TO M
150 LET N=1
160 READ D
170 IF D=0 THEN GO TO 320
180 IF D<D2 THEN GO TO 200
190 LET N=D-D2
200 LET D2=D
210 READ R
220 LET T0=R-T2
230 LET T1=T0+C
240 PRINT TAB 4;D;TAB 10;R;TAB 20;T0;TAB 32;T1;
250 IF N=1 THEN GO TO 270
260 PRINT "  ***(";N;" DAYS)";
270 LET T2=R
290 LET N1=D-1
300 PRINT
310 NEXT I
320 LET T4=R-S
330 PRINT TAB 20;"——";TAB 32;"——"
335 LET T3=T4+C
350 LET F=.03424
360 LET A=T4+F
370 LET X=T3-A
380 LET Y=.1*X
385 LET T3=T3+B+(Y+(.1*B))
390 PRINT "  TOTALS";TAB 20;T4;TAB 32;T3
400 PRINT "  FOR ";N1;" DAYS"
410 PRINT "AVERAGE DAILY USE WAS: ";T4/N1;" kWh"
420 PRINT "AVERAGE DAILY COST WAS: ";T3/N1
430 STOP
500 DATA .0592,5.5
510 DATA 1,7287
520 DATA 19,8423
550 DATA 0

```

TS1000

TS2055





# T/S 2868 COLOR MONITOR DIFFICULTIES K5XY

Some hams have difficulty using some color monitors with the T/S 2868. There are very good reasons for these difficulties. If the usual standards are not followed, less than perfect quality results. The trouble is deciding what are the usual standards when you are trying to build a computer which can be used any place in the world.

Timex had to work hard to adapt the TV output of the Spectrum to the US broadcast standards for use on our TV sets. The adaptation was not perfect.

The following table shows the angles at which the color vectors are produced by the T/S 2868 and the angles which are desired by the usual US TV set.

## COMPOSITE VIDEO VECTOR ANGLES

PHASE	T/S 2868 degrees	NTSC STANDARD degrees
Blue	358	358
Magenta	64	62
Red	116	112
Green	242	248
Cyan	284	284
Yellow	178	178
Reference	224	188

There are also three other difficulties which cause some monitors to give less than perfect performance.

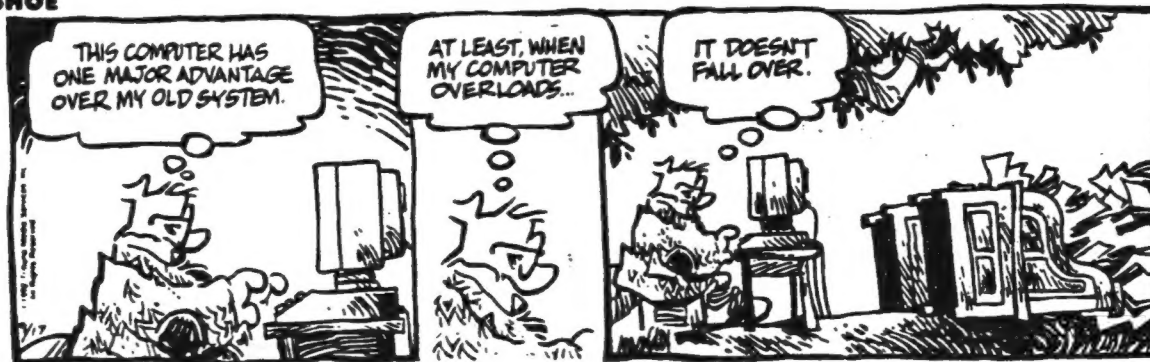
1. Color burst synchronization. The color burst is not synchronous with the waveform because it is generated from the 3.579545 MHz crystal and the waveform is derived from the 14.112 MHz crystal. The result is observed as ripples at color boundaries such as green to magenta.

2. Color burst duration. The color burst duration on the T/S 2868 is 8 cycles while standard TV broadcast stations provide 9 cycles. This short burst is a problem for some monitors.

3. Color burst timing. The color burst starts 6.4 microseconds from the leading edge of the sync pulse. Many monitors are designed to expect this start as early as 5.3 microseconds, thus these monitors may not produce color when attached to the T/S 2868.

I hope this information is helpful to those who are having monitor problems with the T/S 2868.

## SHOE



# MIDI

SUCH AS BIG PC TS1000 GOING TO WORLD OF MUSIC

BY LUBAD

MIDI (MUSICAL INSTRUMENTS DIGITAL INTERFACE) IS A COLLECTION OF PROTOCOLS FOR COMMUNICATION OF DATA AND MUSICAL CHARACTERISTICS.

MIDI PERMIT THAT YOU CAN LINK SEVERAL MUSICAL DEVICES (SUCH AS SYNTHESIZER, POLYPHONICS KEYBOARDS, etc.) BETWEEN THEM AND WITH THE COMPUTER, REGARDLESS OF MANUFACTURER.

COMBINE A TS1000 AND SOME INSTRUMENTS AND YOU CAN HAVE WHAT IS VIRTUALLY A PROGRAMMABLE ORCHESTRA.

MIDI USE 31250 BITS/SEC THAT IS MORE GREAT THAN BOLD RATE OF COMMON RS232 SERIAL INTERFACES.

A GREAT ADVANTAGE IS THAT MIDI IS FULLY ISOLATED BETWEEN DEVICES.

TRANSMISSION IS MAKE ACROSS OPTO COUPLERS TO AVOID RISK OF LINK BY RETURN OF GROUND, AN USUAL PROBLEM WHEN WORKING WITH AUDIO.

HOW WORK MIDI?

SINCE ACCEPTATION OF MIDI PROTOCOL, STANDARDIZATION OF MUSICAL PARAMETERS WAS EASY.

TO PLAY A KEY-NOTE, IN MIDI LANGUAGE, THE FOLLOWING CODES AND STEP OF PROGRAMATION ARE USED:

A COMMAND OF 3 BYTES "KEY ON" IS SENT AS INDICATIVE OF BEGIN THE NOTE, ALSO DEFINE MIDI CHANNEL.

THE "KEY NUMBER" CODE IS THE POSITION OF TONE INTO A VIRTUAL KEY-BOARD WITH KEYS FROM 0 TO 127 (LOW FREQUENCY TO HIGH FREQUENCY TONE).

"VELOCITY" CODE, IS A CODE REFERABLE TO DYNAMICS OF KEY-TONE.

THE "KEY OFF", IS A COMMAND OF 3 BYTES (END OF NOTE). IN MIDI NO DEFINITION OF NOTE LENGTH IS MADE. NOTE LENGTH IS FOUNDED BY DELAY BETWEEN KEY ON AND KEY OFF.

EVEN SO, EXIST A DECODER SYTEM THAT CONTROL A REAL TIME CLOCK TO SYNCHRONIZE MIDI DATA (SUCH AS A "MIDI METRONOME") NAMED "MIDI REAL TIME DATA". EVERY NOW AND THEN IS NEED SOME TIME FUNCTION.

TABLES 1, 2 AND 3, FROM YAMAHA DX7, ARE ILLUSTRATIVES OF MIDI. THE 8 BITS INSTRUCTIONS PROVIDES ALL COMMUNICATION POSSIBILITY OF THE SYNTHESIZER VIA MIDI.

DO YOU HAVE MPU SERIAL INTERFACE?

YOU CAN MAKE A EXPERIMENTAL MIDI INTERFACE, WITH MINOR MODIFICATIONS INTO MPU SERIAL INTERFACE THAT YOU USE FOR RTTY WORK, WITHOUT LOSS OF MPU CAPABILITY, ONLY YOU NEED AN EXTERNAL 2MHzCLOCK.

AFTER YOU NEED TO DIVIDE 2MHzBY 4 (DIVISOR USED TO GENERATE 16 x CLOCK) UNDER SOFTWARE CONTROL.

THE NEXT STEP IS ADDITION OF AN OPTO COUPLER, AND THE MIDI FULLY "STANDARD" CONNECTORS (THE COMMON DIN CONNECTORS).

CAUTION:

PIN 2 OF IN CONNECTOR IS NOT GROUNDED ...

ENDING:

WELL, NOW YOU MUST WRITE THE SOFTWARE...AND GOOD MUSIC/

THE NATIONAL SEMICONDUCTOR DMS250A DATA SHEETS IS VERY HELPFUL FOR YOUR SOFTWARE DEVELOPMENT.

THE ADAPTATION OF MPU SERIAL INTERFACE TO MIDI INTERFACE IS THE STARTER POINT. A FULLY OPERATIONAL SYSTEM REQUIRE ENOUGH TIME AND EXPERIMENTATION, THEN PATIENCE, AND MORE PATIENCE.

BIBLIOGRAPHY:

MIDI PROJECTS,  
ELECTRONICS TECHNOLOGY TODAY INC, P.O. BOX 240,  
PASSAIC PARK, NY 11762-0240, USA.

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